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                    IN THE UNITED STATES DISTRICT COURT
 2
                   FOR THE NORTHERN DISTRICT OF OKLAHOMA
 3
     STATE OF OKLAHOMA, ex rel,
 4
     W.A. DREW EDMONDSON, in his
     capacity as ATTORNEY GENERAL
 5
     OF THE STATE OF OKLAHOMA,
     et al.
 6
               Plaintiffs,
 7
     V.
                                             No. 05-CV-329-GKF-SAJ
 8
 9
     TYSON FOODS, INC., et al.,
10
               Defendants.
11
12
13
                   REPORTER'S TRANSCRIPT OF PROCEEDINGS
14
                              FEBRUARY 19, 2008
15
                       PRELIMINARY INJUNCTION HEARING
16
                                  VOLUME I
17
18
     BEFORE THE HONORABLE GREGORY K. FRIZZELL, Judge
19
20
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21
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22
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RECROSS-EXAMINATION

2 BY MR. GEORGE

1

- Q. Dr. Engel, have you ever spoken with anyone at George's as
- 4 | to why they might be moving poultry litter to the Delta?
- 5 A. I have not.
- 6 Q. Were you just speculating about why, one possible reason
- 7 as to why that might be occurring?
- 8 A. Well, certainly the literature would all seem to indicate
- 9 that, you know, you lose the economic value after you transport
- 10 | this more than a few tens of miles, including the Rausser-Dicks
- 11 materials that you provided.
- 12 Q. You have no idea why they transferred it to the Delta, do
- 13 you?
- 14 A. Well, most likely it's either because --
- 15 Q. Sir, do you know why they transferred it to the Delta?
- 16 A. I don't know exactly why George's does that.
- MR. GEORGE: Okay, thank you.
- 18 THE COURT: You may step down. The plaintiff may call
- 19 its next witness.
- 20 MR. NANCE: Your Honor, State would call Dr. Gordon
- 21 Johnson.

22 GORDON VERNON JOHNSON

- 23 | Called as a witness on behalf of the plaintiffs, being first
- 24 duly sworn, testified as follows:
- 25 THE COURT: State your full name for the record,

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1
     please.
 2
               THE WITNESS: Gordon Vernon Johnson.
 3
               THE COURT: Mr. Nance, you may inquire.
 4
              MR. NANCE: Thank you, Your Honor.
 5
                            DIRECT EXAMINATION
 6
     BY MR. NANCE:
 7
      Q. You've told the Court your name. Would you tell the Court
     what you have done in your professional career, particularly at
 8
 9
     the Oklahoma State University?
10
          I served as extension soil nutrient management specialist
11
     and director of the soil, water and forage testing laboratory.
12
          And for what period of time were you at Oklahoma State
13
     University?
14
          I was there from 1977 through 2004.
      Α.
15
         Were you, at least in 2003 and '4, the regent's professor
16
     of soil science at the university?
17
     Α.
          Yes.
          Let me ask you to look at Exhibit No. 84 and ask if that
18
19
     is your curriculum vitae current through March of 2003?
20
      Α.
          Yes.
          And other than the fact of your retirement in 2004, is
21
      Ο.
22
     there any change that needs to be made to that?
2.3
     Α.
          No.
24
          Have you testified as an expert witness in court cases
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25

before?

- 1 Q. Let's start, sir, in a nutshell your opinion is this: You
- 2 | don't believe that anyone should be allowed to use poultry
- 3 litter on pastures in the Illinois River Watershed if the soil
- 4 in the Illinois Watershed tests at 65 soil test phosphorus or
- 5 | higher; right?
- 6 A. That's in a nutshell correct. I don't believe there's any
- 7 | phosphorus benefit to the application of poultry litter in the
- 8 IRW when the soil test P is above 65.
- 9 Q. As a consequence of that opinion, you believe that all the
- 10 | litter in the Illinois River Watershed should be removed and
- 11 | not used in the watershed; correct?
- 12 A. Yes.
- 13 Q. All right. You've told this Court that land applying
- 14 | poultry litter on lands in the Illinois River Watershed when
- 15 | the STP is 65 or higher is waste disposal; right?
- 16 A. I believe that's what the practice has been, yes.
- 17 | Q. All right. Do you believe that if you use poultry litter
- 18 on pastures and the soil test phosphorus is below 65, the STP,
- 19 | is that waste disposal in your opinion?
- 20 | A. I believe that you could get some benefit from the
- 21 | phosphorus in the litter in those cases.
- 22 | Q. All right. My question is, if the soil test phosphorus is
- 23 | below 65, do you believe that is disposal of a waste or not?
- 24 A. I don't believe you can determine whether it's disposal of
- 25 | waste or not in that situation.

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that's all right.
THE COUR
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THE COURT: That would be fine.

MR. MCDANIEL: Thank you.

- Q. (By Mr. McDaniel) All right. Dr. Johnson, we put up
- 5 which is Defendants' Exhibit No. 4. Would you tell the Court
- 6 what that is, please?
- 7 A. That's the Natural Resource Conservation Service nutrient
- 8 management Code 590 document.
- 9 Q. All right. You agree that this is a standard developed by
- 10 | the United States Department of Agriculture Natural Resources
- 11 | Conservation Service for Oklahoma that provides the
- 12 requirements for animal waste management plans written for
- 13 Oklahoma poultry growers?
- 14 A. I believe that's true, yes.
- 15 Q. All right. Let's flip over to page 4. And Ms. Ferguson
- 16 is going to, on the screen, focus in on the section that refers
- 17 | to phosphorus application. Do you see the bullet point that
- 18 | says phosphorus application?
- 19 A. Yes.
- 20 Q. And the Code 590 says for the application of phosphorus,
- 21 | the maximum planned rates of phosphorus application shall be
- 22 determined using the Oklahoma Phosphorus Assessment Worksheet
- 23 and then Tables 8 and 9. Do you see that, sir?
- 24 A. Yes, I see that.
- 25 Q. All right. Let's flip over to page 20 of Exhibit 4. Page

- 1 20 is entitled the Oklahoma Phosphorus Assessment Worksheet.
- 2 Do you see that?
- 3 A. Yes.
- 4 Q. All right. Now, you've never actually used one of these,
- 5 have you?
- 6 A. Used it in what sense?
- 7 Q. You've never filled one of these out and completed one of
- 8 these for a pasture?
- 9 A. No.
- 10 Q. All right. Now, you agree that under the Code 590 which
- 11 | is part of the Oklahoma law, the nutrient plan writer is
- 12 required to fill one of these out for each field where poultry
- 13 litter may be land applied, do you agree?
- 14 A. I don't know if that's the case or not.
- 15 Q. You don't know if that's the law?
- 16 A. Well, I'm not familiar with the law.
- 17 Q. Do you agree that this -- I thought we agreed this Code
- 18 | 590 applies to animal waste management plans for poultry
- 19 growers in Oklahoma?
- 20 A. Yes, I think that's probably true. Whether it's the law
- 21 or not, I don't know.
- 22 | Q. Oh, you don't know whether the Code 590 is the law of
- 23 Oklahoma?
- 24 A. That's true. I think you told me it was, so I think it
- 25 probably is.

- 1 | O. You prefer not to trust me on that?
- 2 A. No.
- Q. Let's look at the Oklahoma Phosphorus Assessment
- 4 Worksheet. You do agree that a nutrient plan writer who's
- 5 preparing an animal waste management plan for an Oklahoma
- 6 | poultry grower in the Illinois River Watershed should fill one
- 7 of these sheets out for each field?
- 8 A. Yes, and particularly as it relates to the use of animal
- 9 | waste and that's what this is. Because of the higher risk for
- 10 | pollution resulting from animal waste applied to the fields,
- 11 | you must have these additional requirements.
- 12 Q. Each one of these sheets should be filled out for each
- 13 | individual field to take into account field-specific physical
- 14 | characteristics, do you agree?
- 15 A. I expect they should, yes.
- 16 Q. All right. Let's look at the sheet and look at some of
- 17 | the criteria that planners are supposed to use. The planner is
- 18 | supposed to include the soil test phosphorus?
- 19 A. Yes.
- 20 Q. That's what we've talked about quite a bit this afternoon,
- 21 | isn't it?
- 22 A. Yes.
- 23 Q. Supposed to consider how it's put on the ground, the
- 24 application method; right?
- 25 A. Yes.

- 1 Q. Supposed to consider the slope of the land?
- 2 A. Yes.
- 3 Q. Supposed to consider the potential for erosion of the
- 4 land?
- 5 A. Yes.
- 6 Q. Supposed to consider the frequency of flooding?
- 7 A. Yes.
- 8 Q. The planner is supposed to consider the distance of the
- 9 application to streams, ponds, wells and sink holes. Do you
- 10 | see that?
- 11 A. Yes.
- 12 Q. Do you see these criteria here?
- 13 A. Yes, I do.
- 14 O. A hundred feet from a stream, pond, well, 300 feet from
- 15 | every drinking water well. Next one down, distance to a
- 16 | stream, it's defined; correct?
- 17 A. Yes.
- 18 | Q. It can be altered if there is a buffer in place; right?
- 19 A. I believe that's true.
- 20 Q. All right, and then depth of soil, that's another
- 21 criteria?
- 22 A. Yes.
- 23 Q. It has to be at least 10 inches of soil in order to use
- 24 | poultry litter; correct?
- 25 A. Yes.

- 1 Q. And also how rocky the soil is is a factor the planner
- 2 | should consider; correct?
- 3 A. Yes.
- 4 Q. Were you here earlier this afternoon as Dr. Fisher was
- 5 talking about the characteristics of the soil in the Illinois
- 6 River Watershed?
- 7 A. Yes.
- 8 Q. And he was talking about how some places it's rocky?
- 9 A. Yes.
- 10 Q. All right. That's something a nutrient management planner
- 11 | is supposed to observe and take note of in preparing the
- 12 | phosphorus assessment worksheet, do you agree?
- 13 A. Yes.
- 14 O. Now, the criteria that you are asking this Court to adopt
- is only the very first one I mentioned, that's soil test
- 16 | phosphorus; right?
- 17 A. Yes.
- 18 Q. All these other criteria, you would agree, Dr. Johnson,
- 19 relate to the potential for phosphorus to move from that land
- 20 application site into a water course?
- 21 A. If you are applying animal manure, yes.
- 22 | Q. Now, let's look back. We're still in Code 590. Would you
- look at page 4, sir. Tell me when you are there.
- 24 A. Yes.
- 25 | Q. It should be up on the screen. The left column, Dr.

- 1 Johnson, set out by the NRCS under these bullet points are a
- 2 | number of physical conditions on an individual field which, if
- 3 | they are present, you cannot use poultry litter, do you agree?
- 4 A. Yes, I think we just went over each of these.
- 5 Q. Right. In other words, that slope factor, if it's over 15
- 6 percent slope, no litter; right?
- 7 A. That's correct.
- 8 Q. If there's less than 10 inches of soil, no litter; right?
- 9 A. That's correct.
- 10 | Q. Okay. We're not going to go through the list, but I just
- want to point out for the Court's benefit that there's a number
- 12 of items listed here.
- 13 A. Yes.
- 14 O. Now, in order to make use of poultry litter in the
- 15 Illinois River Watershed, I believe the Code 590 told us to
- 16 | look at Table 9. Do you remember that?
- 17 A. Yes.
- 18 | Q. Let's look at page 21. Tell the Court what Table 9 is.
- 19 A. Table 9 is a table that shows -- it's titled animal manure
- 20 application rates for non-nutrient -- I'm sorry, wrong table,
- 21 | that's Table 8. Table 9 is annual manure application rates for
- 22 | nutrient limited waters. And it shows the soil test values --
- 23 | a range of soil test values from zero to greater than 300
- 24 | related to application rates associated with soil depth and
- 25 | percent slope. It also shows those in relationship to the size

- 1 of rocks and the soil covered by rocks.
- Q. All right. On this Table 9, sir, has the soil test
- 3 phosphorus as one of the columns?
- 4 A. Yes.
- 5 Q. And you would agree, sir, that the legal maximum here in
- 6 the Code 590 is 300 STP, not the 65 you propose?
- 7 A. Yes.
- 8 MR. NANCE: I object as calling for a legal
- 9 conclusion, Judge.
- 10 | THE COURT: I think he's just asking a factual bit of
- 11 | information there. Overruled.
- 12 A. What you stated is what is found on this table.
- 13 Q. (By Mr. McDaniel) Thank you. Now, let's go back to the
- 14 very beginning, sir. Page 1 of the document --
- 15 A. Yes.
- 16 Q. -- PI Exhibit 4. Now, just to circle back, you made the
- 17 | statement that putting poultry litter down anywhere at 65 STP
- 18 | above amounts to waste disposal?
- 19 A. Yes.
- 20 | Q. But let's look here under the purposes on page 1 of the
- 21 | code. It says the purposes of the nutrient management code are
- 22 | to budget and supply nutrients for plant production; right?
- 23 A. Yes.
- Q. To properly utilize manure or organic byproducts as a
- 25 | plant nutrient source; right?

- 1 A. Yes.
- 2 Q. To minimize agricultural non-point source pollution of
- 3 | surface and groundwater resources. Do you agree?
- 4 A. Yes.
- 5 Q. To protect air quality by reducing nitrogen emissions and
- 6 | the formation of atmospheric particulates; right?
- 7 A. Yes.
- 8 Q. The last one is to maintain or improve the physical and
- 9 | chemical and biological condition of soil; is that right?
- 10 A. Yes.
- 11 Q. All right, sir. Is the word disposal mentioned there
- 12 anywhere?
- 13 A. No.
- 14 Q. It says to properly utilize animal nutrients. That's the
- 15 | NRCS' language, isn't it?
- 16 A. Yes, and I would like to add that it also says as one of
- 17 | those bullets to minimize agricultural non-point source
- 18 | pollution of surface and groundwater resources. And that the
- 19 | scientific literature has many studies that conclude as soil
- 20 test phosphorus levels increase, the water soluble phosphorus
- 21 in field runoff increases proportionately. So to the extent
- 22 | that this objective is being attempted to be carried out, Table
- 23 9 doesn't do it.
- Q. Oh, I see. You don't think the NRCS is accomplishing its
- 25 | mission in Oklahoma?

- 1 A. There's a contradiction between this objective and the
- 2 excessive application of poultry litter when the soil test
- 3 phosphorus is above 65.
- 4 Q. Now, isn't it true, Dr. Johnson, that you've actually gone
- 5 to the NRCS and told them their code is wrong? That's true,
- 6 | isn't it?
- 7 A. That's true. Well, I don't know if I told them it was
- 8 wrong.
- 9 O. Excuse me?
- 10 A. I don't know if I told them it was wrong. I told them at
- 11 | the time as they were seeking input that there wasn't any sound
- 12 | scientific rationale or basis for having soil test levels
- 13 higher for animal waste than for fertilizer.
- 14 | Q. You told them that when you were working at --
- 15 A. Yes.
- 16 Q. -- Oklahoma State University?
- 17 A. Yes.
- 18 Q. And they didn't change the code, did they?
- 19 A. They didn't.
- 20 Q. Let's go to Exhibit No. 6, Defendants' 6, please. It
- 21 | should be in your packet. Can you identify for the Court what
- 22 | Exhibit 6 is, Dr. Johnson? It's also on the screen, if it will
- 23 help you, sir.
- 24 A. Okay. I see it on the screen, I don't see it in here.
- 25 | It's an animal waste management plan.

- 1 Q. Do you recall looking at this at your deposition?
- 2 A. Yes, I do.
- 3 Q. All right. It's the animal waste management plan for a
- 4 W.A. Saunders in Delaware County, Oklahoma?
- 5 A. Yes.
- 6 Q. Who was it prepared by?
- 7 A. It's dated September 14th of 2005.
- 8 Q. You need to speak in your microphone, if you wouldn't
- 9 mind, sir.
- 10 A. I'm sorry. It's dated September 14th, 2005. I don't see
- 11 | the location of who it's prepared for.
- 12 Q. All right. Do you see where it says Oklahoma Department
- of Agriculture, Food and Forestry?
- 14 A. Yes.
- Q. Do you see where it has the stamp on it from the
- 16 | Agricultural Environmental Management Services, State
- 17 Department of Agriculture?
- 18 A. Yes.
- 19 Q. Let's turn over to the third page of the exhibit. The
- 20 | Bates number on it is -- the last three digits are 181.
- 21 MR. BULLOCK: Could we give Dr. Johnson a copy of it
- 22 | so he can actually look at it?
- MR. MCDANIEL: It's right in front of him.
- MR. BULLOCK: I just wanted to be sure he had it.
- 25 Thank you, counsel.

- 1 A. It's this one.
- Q. (By Mr. McDaniel) The third page of the exhibit, Doctor,
- 3 | let me know when you are there please.
- 4 A. I'm there.
- 5 | O. Let's look at the introduction. About the middle of the
- 6 introduction, you see, Dr. Johnson, where it says, quote, "The
- 7 | law requires that the Natural Resources Conservation Service,
- 8 NRCS, recommendation for poultry litter application rates be
- 9 | followed, " closed quote. Do you see that?
- 10 A. I see that and I believe that's a misquote.
- 11 Q. So the Department of Agriculture is wrong, too?
- 12 A. No, I believe that the NRCS does not make recommendations
- 13 for litter application.
- 14 | O. Oh, so you don't think this is referring to the Code 590?
- 15 A. It is referring to the Code 590, but the Code 590 is not a
- 16 recommendation chart.
- 17 Q. Okay. You disagree with the characterization of what the
- 18 | Code 590 does?
- 19 A. I disagree with the way it's characterized here as
- 20 providing recommendations.
- 21 Q. Okay. Have you taken that up with the Department of
- 22 Agriculture?
- 23 A. No.
- Q. All right. Let's look at the description of the property,
- 25 Mr. Saunders' property on the first line of Section B.

- 1 A. Okay.
- 2 | Q. Do you see where the plan writer says this farm is located
- 3 | in the area of highly vulnerable groundwater?
- 4 A. Yes.
- 5 Q. So you would agree that this is something that the plan
- 6 writer is to take into consideration in preparing this animal
- 7 | waste management plan for the Saunders Farm?
- 8 A. I agree that it appears on this plan. I mean, I'm reading
- 9 what you are reading.
- 10 Q. All right. Let's look at the -- flip over one more page.
- 11 It's page 4 of the exhibit. The Bates number ends with 182.
- 12 And if you could -- where it says application rates, do you see
- 13 a table there, Dr. Johnson, where it appears that Mr. Saunders
- 14 has six field, five of them have been tested?
- 15 A. Yes.
- 16 | Q. And Field 3, let's zoom in on Field 3 right there if you
- 17 | could. Field 3 has tested at an STP of 65; do you agree?
- 18 A. Yes.
- 19 | O. Now, under your threshold that field could not receive
- 20 | poultry litter; right?
- 21 A. Under my testimony, that field would not receive poultry
- 22 | litter to benefit from phosphorus, that's correct.
- 23 Q. All right, and you qualified it as to benefit from
- 24 phosphorus?
- 25 A. That's correct.

- Q. Let's look at page 14 of the exhibit. The Bates number
- 2 ends with 192, it's a soil test report. Are you there, sir?
- 3 A. Yes.
- 4 MR. NANCE: What page, counsel? I'm sorry.
- 5 MR. MCDANIEL: It is Bates No. 192.
- 6 Q. (By Mr. McDaniel) This OSU lab report, is this the lab
- 7 | that you were in charge of for some period of time?
- 8 A. Yes.
- 9 | Q. All right. Would you agree that this is a soil test
- 10 report for Field No. 3 at Mr. Saunders' farm?
- 11 A. Yes.
- 12 | Q. It shows that the soil test phosphorus was 65?
- 13 A. Yes.
- 14 | O. Agree? Now, let's go down for the interpretation and
- 15 requirements. Is this what you were saying, Dr. Johnson, when
- 16 | you said if there was a recognized need for a nutrient, this is
- 17 | where I'd look to find that?
- 18 A. Yes.
- 19 Q. All right. What does it say about phosphorus on this
- 20 field?
- 21 A. It says phosphorus is adequate.
- 22 | Q. What does it say about nitrogen on this field?
- 23 A. Deficient.
- Q. Now, it's deficient for nitrogen. You agree that poultry
- 25 | litter could help meet that need; right?

- 1 A. Yes, yes.
- Q. So you would agree -- let's look back at page 4 that lists
- 3 | all the fields. It's Bates No. 182. So we've got Field 3 that
- 4 | even though it's got 65 STP, it needs nitrogen and can benefit
- 5 from poultry litter. I think you just agreed to that?
- 6 A. Yes.
- 7 Q. There are four other fields. Would you agree with me,
- 8 | sir, that based upon the soil tests all four of those fields
- 9 | are deficient in phosphorus?
- 10 A. Yes.
- 11 Q. So they can benefit from the use of phosphorus?
- 12 A. That's correct.
- 13 Q. Or excuse me -- from poultry litter?
- 14 A. Yes.
- 15 Q. Let me restate the question. Would you agree that all
- 16 | four of those fields would benefit from the use of poultry
- 17 litter?
- 18 A. They could.
- 19 Q. All right. Now, if this Court enters an injunction as
- 20 | requested banning the use of litter, you'd have to agree with
- 21 | me, Dr. Johnson, that Mr. Saunders would not be able to use his
- 22 | free poultry litter to fertilize these four fields even though
- 23 | you agree that it would be appropriate even under your 65 STP
- 24 threshold?
- 25 A. If these same soil conditions existed today, three years

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1 | after -- or almost three years since they were first sampled,
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- 2 | then I would agree. It's my opinion that when poultry litter
- 3 is used, these deficiencies are quickly corrected and, in fact,
- 4 exceeded. And so to say whether or not this land could benefit
- 5 | from poultry litter today, I can't say that it would. In fact,
- 6 I would expect that it would not.
- 7 Q. All right. Let me -- let's restate the question. Assume
- 8 for me that these are the current soil test conditions on this
- 9 farm.
- 10 A. Yes.
- 11 Q. Then you would agree that he could benefit from poultry
- 12 litter on all five of his fields, but if this injunction is
- 13 entered, he cannot use litter on any of those fields?
- 14 A. I would agree with you, yes.
- 15 | Q. All right. Are you aware of any evidence that
- 16 Mr. Saunders' use of poultry litter has polluted any of the
- 17 | waters of the State of Oklahoma with phosphorus?
- 18 A. No.
- 19 Q. Now, let's talk about the soil samples you discussed with
- 20 Mr. Nance that you used to arrive at your opinions. You admit
- 21 | that you do not have sufficient soil samples from the Illinois
- 22 River Watershed in order to conduct your analysis, that's why
- 23 | you looked at soil samples from the Eucha-Spavinaw; right?
- 24 A. I looked at all sources of soil samples for that part of
- 25 | the state associated with the disposal of poultry waste.

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THE COURT: Rather than discuss it any further, let's
take the next witness. And I'll just tell you how much time --
as you're running out of time, I'll tell you how much time
we've got. And I'm going to start putting the stopwatch to it.
Call your next witness.
         MR. PAGE: Your Honor, the State calls Dr. Roger
Olsen.
         THE COURT: Dr. Olsen.
                        ROGER LEE OLSEN
Called as a witness on behalf of the plaintiffs, being first
duly sworn, testified as follows:
         THE COURT: State your name for the record, please.
         THE WITNESS: Roger Lee Olsen.
         THE COURT: Thank you, Mr. Page.
         MR. PAGE: Thank you, Your Honor.
                      DIRECT EXAMINATION
BY MR. PAGE:
    Dr. Olsen, would you please summarize for the Court your
education?
    Yes, I have a bachelor of science degree in mineral
engineering chemistry from the Colorado School of Mines in
1972, that's essentially a chemistry degree. Then I have my
PhD in geochemistry in 1979 also from the Colorado School of
Mines.
   Dr. Olsen, what work experience do you have that's related
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- demonstrative exhibit. It shows your list of parameters?
- 2 A. Yes.
- Q. Sir, the only bacteria in your signature for poultry
- 4 litter is E. coli, fecal coliforms, Enterococcus and total
- 5 | coliforms; correct?
- 6 A. That's correct.
- 7 Q. You know, do you not, sir, that all four types of those
- 8 | bacteria are found in cattle manure?
- 9 A. I don't know that for sure but I suppose they are, yes.
- 10 Q. You know, do you not, sir, that all four of those types of
- 11 | bacteria are found in human waste deposited in septic tanks?
- 12 A. Probably so.
- 13 Q. You know, do you not, sir, that all four of those bacteria
- 14 | are included in the feces of wildlife that live in the Illinois
- 15 River Watershed?
- 16 A. I do not know that for sure.
- 17 Q. You don't know that?
- 18 A. No. I'm not a bacteria expert.
- 19 Q. All right. Dr. Olsen, does your signature allow you to
- 20 | identify -- strike that. Let me approach it this way.
- 21 Dr. Olsen, your signature does not allow you to identify any
- 22 | farm contracting with Tyson Foods, George's or any other
- 23 defendant represented in this courtroom as a source of any area
- of water contamination in the Illinois River, does it?
- 25 A. You mean does it allow me to identify a specific farm?

- 1 Q. A specific farm under contract with one of the defendants.
- 2 A. No, I've not been asked to do that.
- 3 Q. Does it allow you to identify a specific defendant?
- 4 A. No, I've not been asked to do that.
- 5 Q. Going to Demonstrative Exhibit 461, State's Demonstrative
- 6 Exhibit 461. Dr. Olsen, you prepared this map; correct?
- 7 A. That's correct.
- 8 Q. And I didn't quite follow this, so I want to discuss it
- 9 | with you. In your direct examination, there was some attention
- 10 drawn to the green dots outside of the Illinois River
- 11 Watershed.
- 12 A. Yes, sir.
- 13 Q. Do you recall that?
- 14 A. Yes, sir.
- 15 Q. And I think you described those as control areas; is that
- 16 right?
- 17 A. There's three green dots. There's one right above the
- 18 | basin, that's Spring Creek. And there's two below the basin,
- 19 | far below the basin, not that far, kind of on the county line
- 20 | there that are Little Lee Creek. And there's a green dot that
- 21 | can't be shown here because it's Dry Creek, it's in the Buffalo
- 22 | Creek area. Those are the reference areas for surface waters.
- 23 | Those other three happen to be springs that were collected. I
- 24 didn't really associate those were reference areas. Again,
- 25 | they were just trying to collect all the springs. So those are